

Environmental Protection Agency

Pt. 60, Subpt. OOOO, Table 1

(3) Pressure vessels designed to operate in excess of 204.9 kilopascals and without emissions to the atmosphere.

Sulfur production rate means the rate of liquid sulfur accumulation from the sulfur recovery unit.

Sulfur recovery unit means a process device that recovers element sulfur from acid gas.

Surface site means any combination of one or more graded pad sites, gravel pad sites, foundations, platforms, or the immediate physical location upon which equipment is physically affixed.

Sweetening unit means a process device that removes hydrogen sulfide and/or carbon dioxide from the sour natural gas stream.

Total Reduced Sulfur (TRS) means the sum of the sulfur compounds hydrogen sulfide, methyl mercaptan, dimethyl sulfide, and dimethyl disulfide as measured by Method 16 of appendix A to part 60 of this chapter.

Total SO₂ equivalents means the sum of volumetric or mass concentrations of the sulfur compounds obtained by adding the quantity existing as SO₂ to the quantity of SO₂ that would be obtained if all reduced sulfur compounds were converted to SO₂ (ppmv or kg/dscm (lb/dscf)).

Underground storage vessel means a storage vessel stored below ground.

Well means an oil or gas well, a hole drilled for the purpose of producing oil

or gas, or a well into which fluids are injected.

Well completion means the process that allows for the flowback of petroleum or natural gas from newly drilled wells to expel drilling and reservoir fluids and tests the reservoir flow characteristics, which may vent produced hydrocarbons to the atmosphere via an open pit or tank.

Well completion operation means any well completion with hydraulic fracturing or refracturing occurring at a gas well affected facility.

Well site means one or more areas that are directly disturbed during the drilling and subsequent operation of, or affected by, production facilities directly associated with any oil well, gas well, or injection well and its associated well pad.

Wellhead means the piping, casing, tubing and connected valves protruding above the earth's surface for an oil and/or natural gas well. The wellhead ends where the flow line connects to a wellhead valve. The wellhead does not include other equipment at the well site except for any conveyance through which gas is vented to the atmosphere.

Wildcat well means a well outside known fields or the first well drilled in an oil or gas field where no other oil and gas production exists.

TABLE 1 TO SUBPART OOOO OF PART 60—REQUIRED MINIMUM INITIAL SO₂ EMISSION REDUCTION EFFICIENCY (Z_i)

H ₂ S content of acid gas (Y), %	Sulfur feed rate (X), LT/D			
	2.0 ≤ X ≤ 5.0	5.0 < X ≤ 15.0	15.0 < X ≤ 300.0	X > 300.0
Y ≥ 50	79.0	88.51X ^{0.0101} Y ^{0.0125} or 99.9, whichever is smaller.		
20 ≤ Y < 50	79.0	88.5X ^{0.0101} Y ^{0.0125} or 97.9, whichever is smaller.		97.9
10 ≤ Y < 20	79.0	88.5X ^{0.0101} Y ^{0.0125} or 97.9, whichever is smaller.	93.5	93.5
Y < 10	79.0	79.0	79.0	79.0

TABLE 2 TO SUBPART OOOO OF PART 60—REQUIRED MINIMUM SO₂ EMISSION REDUCTION EFFICIENCY (Z_c)

H ₂ S content of acid gas (Y), %	Sulfur feed rate (X), LT/D			
	2.0 ≤ X ≤ 5.0	5.0 < X ≤ 15.0	15.0 < X ≤ 300.0	X > 300.0
Y ≥ 50	74.0	85.35X ^{0.0144} Y ^{0.0128} or 99.9, whichever is smaller.		

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H ₂ S content of acid gas (Y), %	Sulfur feed rate (X), LT/D			
	2.0 ≤ X ≤ 5.0	5.0 < X ≤ 15.0	15.0 < X ≤ 300.0	X > 300.0
20 ≤ Y < 50	74.0	85.35X ^{0.0144} Y ^{0.0128} or 97.9, whichever is smaller.		97.5
10 ≤ Y < 20	74.0	85.35X ^{0.0144} Y ^{0.0128} or 90.8, whichever is smaller.		90.8
Y < 10	74.0	74.0	74.0	74.0

E = The sulfur emission rate expressed as elemental sulfur, kilograms per hour (kg/hr) [pounds per hour (lb/hr)], rounded to one decimal place.

R = The sulfur emission reduction efficiency achieved in percent, carried to one decimal place.

S = The sulfur production rate, kilograms per hour (kg/hr) [pounds per hour (lb/hr)], rounded to one decimal place.

X = The sulfur feed rate from the sweetening unit (*i.e.*, the H₂S in the acid gas), expressed as sulfur, Mg/D(LT/D), rounded to one decimal place.

Y = The sulfur content of the acid gas from the sweetening unit, expressed as mole percent H₂S (dry basis) rounded to one decimal place.

Z = The minimum required sulfur dioxide (SO₂) emission reduction efficiency, expressed as percent carried to one decimal place. Z_i refers to the reduction efficiency required at the initial performance test. Z_c refers to the reduction efficiency required on a continuous basis after compliance with Z_i has been demonstrated.

TABLE 3 TO SUBPART OOOO OF PART 60—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART OOOO

As stated in § 60.5425, you must comply with the following applicable General Provisions:

General provisions citation	Subject of citation	Applies to subpart?	Explanation
§ 60.1	General applicability of the General Provisions.	Yes.	Additional terms defined in § 60.5430.
§ 60.2	Definitions	Yes	
§ 60.3	Units and abbreviations	Yes.	
§ 60.4	Address	Yes.	
§ 60.5	Determination of construction or modification.	Yes.	
§ 60.6	Review of plans	Yes.	Except that § 60.7 only applies as specified in § 60.5420(a).
§ 60.7	Notification and record keeping	Yes	
§ 60.8	Performance tests	Yes	Performance testing is required for control devices used on storage vessels and centrifugal compressors.
§ 60.9	Availability of information	Yes.	Requirements are specified in subpart OOOO.
§ 60.10	State authority	Yes.	
§ 60.11	Compliance with standards and maintenance requirements.	No	
§ 60.12	Circumvention	Yes.	Continuous monitors are required for storage vessels.
§ 60.13	Monitoring requirements	Yes	
§ 60.14	Modification	Yes.	Except that § 60.18 does not apply to flares.
§ 60.15	Reconstruction	Yes.	
§ 60.16	Priority list	Yes.	
§ 60.17	Incorporations by reference	Yes.	
§ 60.18	General control device requirements ..	Yes	
§ 60.19	General notification and reporting requirement.	Yes.	